

U.S. Appln. No. 09/900,843
Final Response dated February 10, 2005
Reply to Office action of January 11, 2005
Page 2 of 9

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for screening materials in an array comprising:
 - a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
 - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
 - c) a fluid permeable array support spaced apart from, and in alignment with, the window wherein the array support has at least two locations for supporting material;
 - d) a semipermeable membrane adjacent the array support;
 - e) a membrane support adjacent to the semipermeable membrane;
 - f) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane; and
 - g) a location selective heat source in alignment with the window, wherein said location selective heat source sequentially heats the material at the locations of the array support.
2. (Canceled)
3. (Original) The apparatus of Claim 1 further comprising a detector in fluid communication with the fluid outlet.
4. (Original) The apparatus of Claim 1 further comprising at least one fastener connecting the first portion and the second portion of the reaction cell.
5. (Original) The apparatus of Claim 1 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
6. (Original) The apparatus of Claim 1 further comprising a spacing support positioned between the window and the array support.

U.S. Appln. No. 09/900,843
Final Response dated February 10, 2005
Reply to Office action of January 11, 2005
Page 3 of 9

7. (Original) The apparatus of Claim 6 wherein the spacing support is a toothed support.
8. (Original) The apparatus of Claim 1 wherein the array support and the semipermeable membrane are comprised of different materials.
9. (Original) The apparatus of Claim 1 further comprising at least one heater in contact with the cell.
10. (Original) The apparatus of Claim 1 wherein the fluid inlet and one fluid outlet are located in the first portion of the cell while a second fluid outlet is located in the second portion of the cell.
11. (Original) The apparatus of Claim 1 wherein the cell contains two fluid outlets where the fluid outlets are on opposites sides of the combination of the array support and the membrane.
12. (Canceled)
13. (Previously Presented) The apparatus of Claim 1 wherein the heat source is a radiation source.
14. (Original) The apparatus of Claim 3 wherein the detector is a mass spectrometer.
15. (Original) The apparatus of Claim 14 wherein the mass spectrometer is a quadrupole mass spectrometer.
16. (Original) The apparatus of Claim 1 wherein the semipermeable membrane is hydrophobic.
17. (Original) The apparatus of Claim 16 wherein the semipermeable membrane is silicone rubber.
18. (Canceled)
19. (Original) The apparatus of Claim 1 wherein the array support is selected from the group consisting of carbon paper and alumina.
20. (Canceled)
21. (Original) The apparatus of Claim 3 wherein the detector is connected to a microprocessor.
22. (Previously Presented) The apparatus of Claim 1 wherein the heat source is connected to a microprocessor.
- 23-46. (Canceled)

U.S. Appln. No. 09/900,843
Final Response dated February 10, 2005
Reply to Office action of January 11, 2005
Page 4 of 9

- 47) (Previously Presented) An apparatus for screening materials in an array comprising:
- a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
 - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
 - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
 - d) a semipermeable membrane adjacent the array support;
 - e) a membrane support positioned within the cell adjacent to the semipermeable membrane; and
 - f) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane.
- 48) (Previously Presented) The apparatus of Claim 47 further comprising a detector in fluid communication with the fluid outlet.
- 49) (Previously Presented) The apparatus of Claim 47 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
- 50) (Previously Presented) The apparatus of Claim 47 further comprising at least one heater in contact with the cell.
- 51) (Previously Presented) An apparatus for screening materials in an array comprising:
- a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
 - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
 - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
 - d) a dispersion structure positioned between the fluid inlet and the array support;
 - e) a semipermeable membrane adjacent the array support; and

U.S. Appln. No. 09/900,843
Final Response dated February 10, 2005
Reply to Office action of January 11, 2005
Page 5 of 9

- f) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane.
- 52) (Previously Presented) The apparatus of Claim 51 further comprising a detector in fluid communication with the fluid outlet.
- 53) (Previously Presented) The apparatus of Claim 51 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
- 54) (Previously Presented) The apparatus of Claim 51 further comprising at least one heater in contact with the cell.
- 55) (Previously Presented) The apparatus of Claim 51 further comprising a membrane support positioned within the cell adjacent to the semipermeable membrane.
- 56) (Previously Presented) An apparatus for screening materials in an array comprising:
- a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
 - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
 - c) a fluid permeable array support spaced apart from, and in alignment with, the window;
 - d) a semipermeable membrane adjacent the array support;
 - e) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane; and
 - f) a detector in fluid communication with the fluid outlet and a calibration port located between the fluid outlet and the detector.
- 57) (Previously Presented) The apparatus of Claim 56 further comprising a seal positioned within the reaction cell between the first portion of the cell and the window.
- 58) (Previously Presented) The apparatus of Claim 56 further comprising at least one heater in contact with the cell.
- 59) (Previously Presented) The apparatus of Claim 56 further comprising a membrane support positioned within the cell adjacent to the semipermeable membrane.

U.S. Appln. No. 09/900,843
Final Response dated February 10, 2005
Reply to Office action of January 11, 2005
Page 6 of 9

- 60) (Previously Presented) The apparatus of Claim 56 further comprising a dispersion structure positioned between the fluid inlet and the array support.
- 61) (NEW) An apparatus for screening materials in an array comprising:
- a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
 - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
 - c) a fluid permeable array support spaced apart from, and in alignment with, the window wherein the array support has at least two locations for supporting material;
 - d) a dispersion structure positioned between the fluid inlet and the array support;
 - e) a semipermeable membrane adjacent the array support;
 - f) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane; and
 - g) a location selective heat source in alignment with the window, wherein said location selective heat source sequentially heats the material at the locations of the array support.
- 62) (NEW) An apparatus for screening materials in an array comprising:
- a) a cell comprising a first portion and a second portion, said cell having a fluid inlet and at least one fluid outlet and said first portion defining a passage;
 - b) a window positioned within the cell adjacent the first portion and in alignment with the passage;
 - c) a fluid permeable array support spaced apart from, and in alignment with, the window wherein the array support has at least two locations for supporting material;
 - d) a semipermeable membrane adjacent the array support;
 - e) said fluid inlet and one fluid outlet positioned on opposite sides of the combination of the array support and the semipermeable membrane;

U.S. Appln. No. 09/900,843
Final Response dated February 10, 2005
Reply to Office action of January 11, 2005
Page 7 of 9

- f) a location selective heat source in alignment with the window, wherein said location selective heat source sequentially heats the material at the locations of the array support; and
- g) a detector in fluid communication with the fluid outlet and a calibration port located between the fluid outlet and the detector.